

# RESISTOR

## CVD DIAMOND 50 WATTS, EXTENDED TAB



DATA SHEET

PART SERIES: CR0505DXXX,5ET

SHEET 1 OF 2  
Dwg 1013385

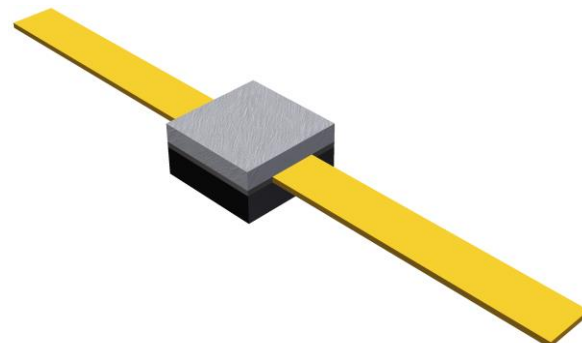
EN 14-1451  
Revision -

### FEATURES

- Small Size - Light Weight
- Highest Thermal Performance Possible
- Excellent Peak Power Capability
- Rugged Passivated TaN Film
- Moisture Resistant
- Pure Gold Input Pads
- Wire Bondable or Solderable
- High Power

### APPLICATIONS

- Broadcast
- High Power Filters
- High Power Amplifiers
- Instrumentation
- Isolators
- Military
- Satellite Communications
- Phased Array Radar



### GENERAL DESCRIPTION

CVD Diamond Resistors offer extremely high power ratings and smallest size watt-per-watt of any resistor on the planet. These resistors are ideal for military and space applications because of their high power capability, broad frequency response and small, lightweight size. They are ideal for peak power applications. They are manufactured using all thin film construction and have a pure thin film gold finish that is both wire bondable and solderable. They can be supplied with or without solderable tabs. High reliability tested versions per MIL-PRF-55342 are also available. These products are lead free, RoHS compliant and S-level approved. They also meet NASA outgassing requirements for space applications.

### ORDERING INFORMATION

#### Part Identifier:

CR0505DXXX,5ET

Resistance Value

### SPECIFICATIONS

#### 1.0 ELECTRICAL

Nominal Impedance:	50 & 100 $\Omega$ $\pm$ 5%
Frequency Range:	DC – 18 GHz
Typical Capacitance:	0.1 pF Typical
Input Power:	50 Watts
Peak Power:	500 Watts (1 $\mu$ s pulse width, 1% duty cycle)

#### 2.0 ENVIRONMENTAL

Operating Temperature:	-55°C To +125°C
Non-operating Temperature:	-55 °C To +150 °C
Temperature Coefficient:	$\pm$ 200 PPM/°C Max

#### 3.0 MARKING

Unit Marking:	None
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#### 4.0 QUALITY ASSURANCE

- Sample Inspect Per MIL-STD-105, Level II, 1.0% AQL.
- Visual and Mechanical Inspection for Conformance to Outline Drawing
- Measure DC Resistance
- Data Retention - Standard

#### 5.0 PACKAGING

Standard:	Waffle Packaging
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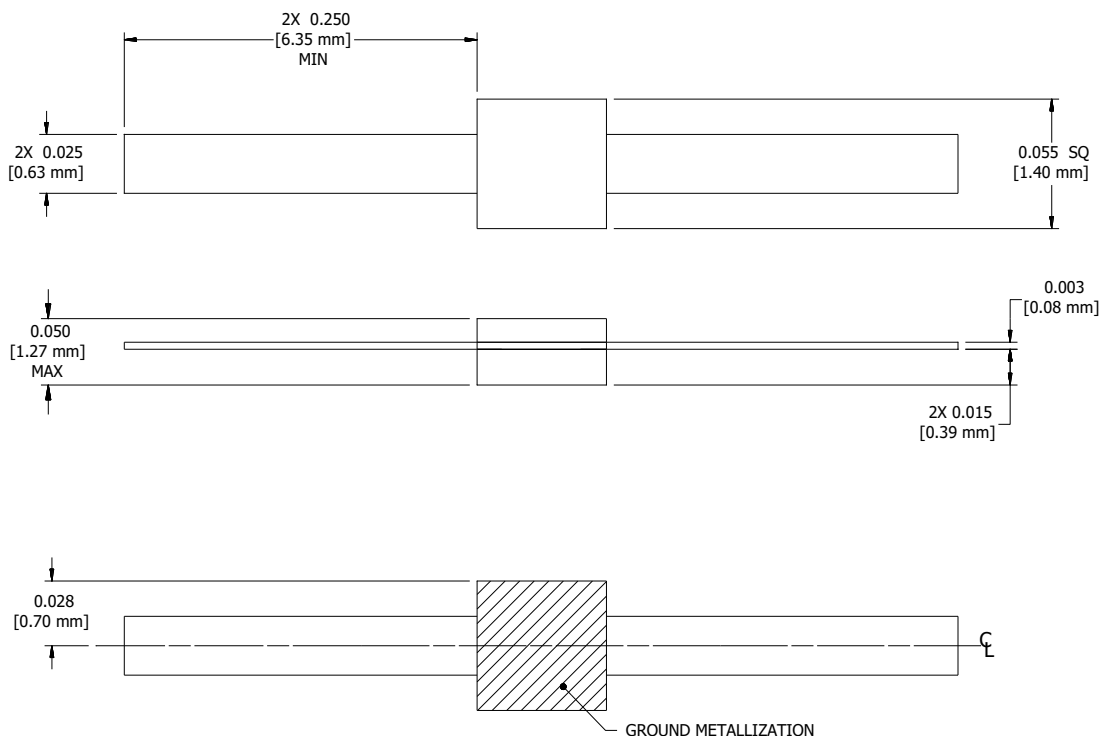
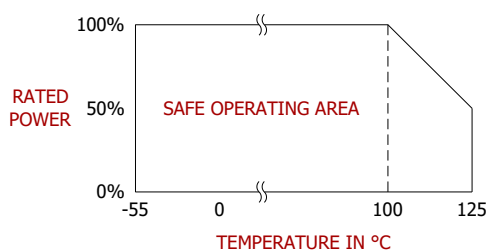
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SHEET 2 OF 2  
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### 6.0 MECHANICAL

Substrate Material:	CVD Diamond
Resistive Element:	Thin Film
Ground Plane Metallization:	Gold over Platinum
Terminal Metallization:	Gold over Nickel
Tabs:	Copper; Gold Plated
Cover:	Alumina
Metric Dimensions:	Provided for reference only



Unless Otherwise Specified: TOLERANCE: X.XX = ± 0.01 X.XXX = ± 0.005